REMARKS

Applicants affirm the provisional election without traverse, and claims 15-22 and 37-44 are canceled without prejudice. New claims 45-53 are added and are supported by the application as filed and do not present new matter. Claims 1-14, 23-36 and 45-53 are pending in the application. Reconsideration of the application, as amended, is respectfully requested.

I. Independent Claims 1, 6 and 23 Are Novel Over Randall

Independent claims 1, 6 and 23 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,634,018 to Randall *et al.* ("Randall"). Applicants respectfully traverse the rejection. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference MPEP § 2131 (emphasis added); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306 (Fed. Cir. 2003). "The identical invention must be shown in as complete detail as is contained in the ... claim." MPEP § 2131; *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Applicants respectfully traverse the rejection. In order to expedite prosecution of the application, Applicants offer the following remarks.

The subject application describes inspection of circuit elements in light of interfeature relationships, such as process proximity effects, coupling across layers, electronic relationships and interconnects having a certain length, and contextual information, such as priority, ordering, or inspection parameter information. Contextual information may include manufacturing and integrated circuit (IC) context parameters, and may be used in processes that prioritize and order various features of the circuit or mask designs. (Para. 0031). Contextual information related to the manufacturing process includes resolution, criticality, proximity-effect distortions, topological properties of a circuit layer, chemical or thermal limitations. Contextual information related to the IC includes associations with and feature properties of an element in the circuit, priority criteria for the element relative to other such elements or critical tolerances. (Para. 0032).

The subject application also provides an example in which portions of a mask are ranked or prioritized, and the inspection tool beam is adjusted (e.g., order, power, shape, scan, timing) according to the ranking. As a result, more important portions of the mask are inspected first with higher resolution and slower beam trajectories, and less important portions are inspected with lower

resolutions and faster beam trajectories. This provides more intelligent and efficient inspection commensurate with the circuit function and criticality. (Paras. 0039, 0044, 0050 and 0099-00134).

Randall fails to disclose or suggest "using information for interfeature relationships of the integrated circuit design data to inspect the mask" as recited in claim 1 and "means for using information for interfeature relationships of the integrated circuit design data to inspect the mask" as recited in claim 23. Further, Randall fails to disclose or suggest "using context information from the integrated circuit design data to inspect the photomask or wafer" as recited in claim 6.

Initially, Randall explains that a reticle is a patterned substrate containing one or more copies of the chip pattern, and this term is used interchangeably with "mask." (Randall, col. 1, lines 35-41; col. 8, lines 65-67). Randall also explains that "the reticle inspection process is improved by incorporating the limitations of the inspection tool itself into the reticle inspection process." (Randall, col. 4, lines 17-19). This does not relate to Applicants' claims, which include limitations directed to using information for interfeature relationships of the integrated circuit design data to inspect the mask and using context information from the integrated circuit design data to inspect the photomask or wafer. In contrast, Randall explains that "the reticle is compared to a reticle inspection image. This image may also be converted to a layout file for comparison with the reticle. (Randall, col. 4, lines 25-26 (emphasis added); col. 7, lines 42-43)."

Randall describes what is discussed in the subject application as background. For example, the subject application explains that known mask inspection systems compare an image of the mask with another mask or with a mask database. (Para. 0004). The subject application further describes a "die-to-die" mode and a "die-to-database" mode, which allows correlation against a mask inspection file data. (Para. 0014). The deficiencies of Randall are evident considering that Randall discusses known die-to-database modes, and explains that the reticle is compared to a reticle inspection image, and that the image can be converted to a layout file, which is compared to the reticle. (Randall, col. 4, lines 22-28, col. 7, line 58 - col. 8, line 36).

Thus, Randall does not disclose or suggest the limitations related to using interfeature relationships to inspect a mask and does not disclose or suggest using context information to inspect a mask. Accordingly, Applicants' claims 1, 6 and 26 are fundamentally different than the system and method described in Randall. Nowhere does Randall disclose or suggest each and every

limitation of independent claims 1, 6 and 23. Randall, therefore, cannot support the rejection under 35 U.S.C. §102(e), and Applicants respectfully request that the rejection be withdrawn.

If the rejection stands following this amendment, Applicants respectfully request the Examiner to specifically identify the particular sections of Randall that meet the anticipation standards in accordance with 35 U.S.C. §102(e), 35 U.S.C. §132 and 37 C.F.R. §104(c)(2). 35 U.S.C. §132 states, "Whenever, on examination, any claim for a patent is rejected, . . .the Director shall notify the applicant thereof, stating the reasons for such rejection, . . . together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application..." 37 C.F.R. §104(c)(2) states "In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified."

II. Dependent Claims 2-5, 7-14 and 24-36 Are Novel Over Randall

Dependent claims 2-5, 7-14 and 24-36 incorporate the elements and limitations of respective independent claims 1, 6 and 23 and add novel and nonobvious limitations thereto. Accordingly, Applicants respectfully submit that these dependent claims are allowable over Randall. Nevertheless, in order to illustrate the clear deficiencies of Randall, Applicant offers the following remarks.

Claims 2-5 all refer to different types of interfeature relationships. Randall does not disclose or suggest using these features to inspect a mask, as discussed above.

Regarding claims 3 and 25, Applicants respectfully submit that Randall fails to disclose or suggest interfeature relationships across multiple layers of an IC design. As discussed above, Randall does not disclose or suggest interfeature relationships, and the cited sections of Randall (col. 2, lines 10-24 and col. 4, lines 25-61) do not disclose or suggest interfeature relationships and the multiple layers. See also col. 1, line 33 ("specific layer").

Applicants respectfully submit that Randall also fails to disclose or suggest the limitations of claims 4 and 26. Randall does not disclose or suggest inspecting a mask based on interfeature relationships and does not disclose or suggest inspecting a mask based on process proximity effects,

coupling across layers, electronic relationships or wire interconnects longer than a given length. Rather, as discussed above, Randall explains that the reticle inspection process is improved by incorporating the limitations of the inspection tool itself into the reticle inspection process, that the reticle is compared to a reticle inspection image, which may be converted to a layout file for comparison with the reticle. (Randall, col. 4, lines 17-28)

Moreover, with regard to claims 5 and 27, Applicants respectfully submit Randall does not disclose or suggest waiving one or more defects. Rather, the cited sections of Randall merely describe creating a modified design pattern that produces a desired pattern.

Applicants also respectfully submit that Randall fails to disclose or suggest identifying individual mask features as recited in claims 6 and 28 and the priority limitations recited in claims 7, 8, 29 and 30. As discussed above, the subject application describes a system and method in which each mask element can be inspected in the context of its design, manufacturing, or other purpose, through its individual parameters, ranks or orders so that more important portions of the mask can be inspected first with higher resolution and slower beam trajectories. (Paras. 0039, 0044, 0050 and 0099-00134). Randall is clearly deficient in this regard and explains that the reticle inspection process is improved by incorporating the limitations of the inspection tool itself into the reticle inspection process, that the reticle is compared to a reticle inspection image, which can be converted to a layout file for comparison to the reticle. (Randall, col. 4, lines 17-28).

In view of the forgoing remarks, Applicants respectfully request that the rejection of the dependent claims under 35 U.S.C. §102(e) be withdrawn.

III. New Claims 45-53 Are Novel Over Randall

New dependent claims 45-53 incorporate the elements and limitations of respective independent claims 1, 6 and 23 and add novel and nonobvious limitations thereto. Accordingly, Applicants respectfully submit these dependent claims are allowable over the cited references.

IV. Conclusion

Based on the forgoing amendments and remarks, the Applicants respectfully submit that the application is in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. If there are any remaining issues that can be resolved by telephone, Applicants invite the Examiner to contact the undersigned at the number indicated below.

Respectfully submitted,

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